AIR POLLUTION IN THE BRAZILIAN AMAZON AND SEX SECONDARY RATIO

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Background and Aim: Air pollution has been related to changes in the sex ratio in industrial areas. The aim of this study is to analyze the correlation between secondary sex ratio, and exposure to fine particulate matter from biomass burning in the Brazilian Amazon.
Methods: Ecological study of the correlation between the indicators: annual hours (AH%) of fine particulate matter ($PM_{2,5}$) and secondary sex ratio (SSR) in the Brazilian Amazon region in 2004 and 2005. The database for the exposure indicator, i.e. the percentage of annual hours of $PM_{2.5}$ above the thresholds of 25• g/m^3, 50• g/m^3 e 80• g/m^3, representative of the air pollution levels of concentration of were produced by the Weather Forecasting and Climatic Study Center of the Brazilian Space Research Institute (CPTEC/INPE). To calculate the indicator of RSS we used the database of the Information System of Birth (SINASC) for all municipalities in the Brazilian Amazon.
Results: The states of Rondonia and Mato Grosso presented the highest levels of particulate matter during the study period. The Spearman correlation of every cut-off points for AH% was not statistical significant with the RSS. The averages of RSS were 1.08 and 1.07 in 2004 and 2005 respectively that represents 8 to 7% more males than females. Conclusion: The secondary sex ratios were not related to the levels of pollutants from biomass burning in the Brazilian Amazon during 2004 and 2005.
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